

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number
WO 2005/014314 A1

(51) International Patent Classification⁷: B60F 3/00, B60G 3/20, B62D 61/12

(21) International Application Number: PCT/GB2004/003069

(22) International Filing Date: 15 July 2004 (15.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0317385.3 25 July 2003 (25.07.2003) GB

(71) Applicant (for all designated States except US): GIBBS TECHNOLOGIES LTD (GB/GB); Avenue Road, Nuneaton, Warwickshire CV11 4LY (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): GIBBS, Alan, Timothy [NZ/GB]; 28 Albert Bridge House, 127 Albert Bridge Road, London SW11 4PL (GB).

(74) Agents: CHURCH, Simon, J. et al.; Marks & Clerk, 144 New Walk, Leicester LE1 7JA (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

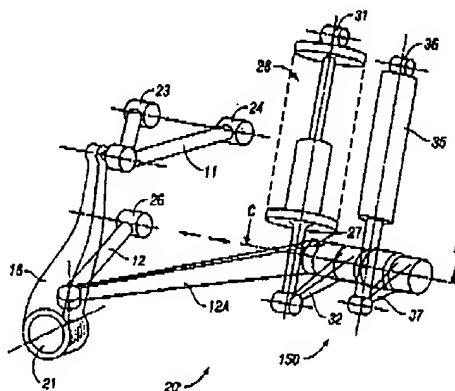
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

(Continued on next page)

(54) Title: AMPHIBIOUS VEHICLE



(57) Abstract: An amphibious vehicle (1, fig 1) wheel suspension (20') comprises upper and lower linkages (11, 12); road suspension means (28); and a retraction means (35) for moving the wheel between a protracted position for road use, and a retracted position for marine use. Suspension means (28) can be operatively disconnected from the wheel and/or the linkages to allow for retraction and protraction. Retraction means (35) may also be disconnected for road use. The disconnection mechanisms may comprise a ball and track mechanism (34', fig. 3), interlocking splines (92A, 93A, 96, figs. 4 and 4A), interlocking teeth (106, 108, fig. 5), or a pneumatic clutch (138, fig. 6). Fig. 8 shows a combination of splines (160 and 161) for suspension lever arm (32), and pneumatic clutch (168) for retraction arm (37). Suspension means (28) may be connected to upper linkage (11) (fig. 2). Coil, torsion bar, or hydropneumatic springs may be used.

WO 2005/014314 A1